

SESSION PMB

September 28, 14:30-16:30, Plenary Hall

Plenaries II

Session Chair: **TBA**, TBA (TBA)

PMB1 Metamaterials in optical spectral region: technologies, properties and perspectives of application, (plenary) V.N. Belyi (*B.I. Stepanov Institute of Physics, Belarus*) [40 min].

PMB2 On some problems of laser interferometers for the direct detection of gravitational waves, (plenary) V. Pustovoit (*Scientific and Technological Ctr. of Unique Instrumentation, Russia*) [40 min].

PMB3 Lasers in modern refractive surgery, (plenary) S. Vartapetov (*Prokhorov General Physics Institute, Russia*) [40 min].

LAT-2016 Program Topics

1. Laser Systems and Materials

R&D of new type of solid-state lasers; applications of SSL; new active, passive and nonlinear materials of SSL; laser systems for Inertial Confinement Fusion (ICF); high-power gas and solid-state lasers; high-efficient diode pumping systems for high-power lasers; experimental methods for laser plasma diagnostics; fiber lasers and amplifiers; new materials and structures of optical fibers.

Chairs: Eugeny Dianov (Fiber Optics Research Center, Russia); Igor Bufetov (Prokhorov General Physics Inst., Russia); Nikolay Kuleshov (Belarusian National Technical University, Belarus); Irina Sorokina (Norwegian University of Science and Technology (NTNU), Norway)

SESSION LMB

September 26, 11:00-13:00, Hall 5

Laser System and Materials I

Session Chair: TBA, TBA (TBA)

LMB1 Recent developments in visible rare-earth-doped lasers (keynote), C. Kränkel (*Universität Hamburg / Institut für Laser-Physik, Germany*) [45 min].

LMB2 Novel Red Europium Lasers Based on Monoclinic Double Tungstates (invited), Pavel Loiko, Vladimir Dashkevich, Anatoly Pavlyuk (*Center for Optical Materials and Technologies, Belarusian National Technical University, Belarus*) [30 min].

LMB3 Ponderomotor Forces Impact on Properties of UV Solid-State Laser, V.V. Semashko, O.R. Akhtyamov, A.S. Nizamutdinov, M.A. Marisov, E. Sarantopoulou and A.C. Cefalas (*Kazan federal university, Russia*) [15 min].

LMB4 Excited - state absorption spectra of Pr³⁺ ions doped into LiY_{1-x}Lu_xF₄ mixed crystals, V. G. Gorieva, S. L. Korableva, V. V. Semashko (*Kazan Federal University, Russia*) [15 min].

LMB5 High-power solid state lasers and spectral instruments in a variety of applications, I. Kalitukho, A. Protasenya (*JSC SolarLS, Belarus*) [15 min].

SESSION LMD

September 26, 16:30-18:30, Hall 5

Laser System and Materials II

Session Chair: TBA, TBA (TBA)

LMD1 Mid-Infrared Femtosecond Solid-state and Fiber Laser Systems for Real-world Applications (invited), N. Tolstik, E. Sorokin, I.T. Sorokina (*NTNU Norwegian University of Science and Technology, Norway*) [30 min].

LMD2 A sub-picosecond Ho laser and its application as a driver for mid-IR parametric amplification (invited), P. Malevich, T. Kanai, S. S. Kangaparambil, H. Hoogland, R. Holzwarth, A. Pugžlys, A. Baltuška (*Photonics Institute of Vienna University of Technology, Austria*) [30 min].

LMD3 Pulsed Diode-Pumped Picosecond Lasers with the Dynamical Operation Control, N.G. Mikheev, V.B. Morozov, A.N. Olenin, I.V. Tulin, D.I. Ustinov, D.V. Yakovlev (*International Laser Center and Physics Faculty of M.V. Lomonosov Moscow State University, Russia*) [15 min].

LMD4 Broadband Mid-Infrared Gas Laser Systems, A.A. Kotkov, O.V. Budilova, A.A. Ionin, I.O. Kinyaevskiy, Yu.M. Klimachev, A.Yu. Kozlov (*P.N. Lebedev Physical Institute of the Russian Academy of Sciences, LPI, Russia*) [15 min].

LMD5 Long-Wavelength Carbon Monoxide Laser on the Highest Vibrational Transitions, A.A. Kotkov, O.V. Budilova, A.A. Ionin, I.O. Kinyaevskiy, Yu.M. Klimachev and A.Yu. Kozlov (*P.N. Lebedev Physical Institute of the Russian Academy of Sciences, Russia*) [15 min].

LMD6 Silicon Based Modulator for Optical Control of Wide Band Terahertz Radiation, G.V. Sinitsyn, A.V. Lyakhnovich, V.L. Malevich (*B.I. Stepanov Institute of Physics National Academy of Sciences of Belarus, Belarus*) [15 min].

SESSION LTuC

September 27, 09:00-11:00, Hall 5

Laser System and Materials III

Session Chair: TBA, TBA (TBA)

LTuC1 Negative curvature hollow-core optical fibers for lasers (invited), I.A. Bufetov, A.V. Gladyshev, A.F. Kosolapov, A.D. Pryamikov (*Fiber Optics Research Center of RAS, Russia*) [30 min].

LTuC2 High-Power Diode Pumped Raman Fiber Lasers Operating Below 1 Micron (invited), E. A. Zlobina, S. I. Kablukov, S. A. Babin (*Institute of Automation and Electrometry SB RAS, Novosibirsk State University, Russia*) [30 min].

LTuC3 Two-dimensional temperature and power image over the growth zone of sapphire (Al₂O₃) single crystal fibers, G.A. Bufetova, S.Ya. Rusanov, V.F. Seregin, Yu.N. Pyrkov, V.B. Tsvetkov (*A.M. Prokhorov General Physics Institute, Russian Academy of Sciences, Russia*) [15 min].

LTuC4 Mid-Infrared segmented nano grains extruded fibers based on metal halides crystals and their applications, L.N. Butvina, A.L. Butvina (*Fiber Optic Research Center Russian Academy of Science, Russia*) [15 min].

LTuC5 Investigation of Optical Structure Based on Double Cladding Fiber with Overlays, O.V. Ivanov, F. Yang, F. Tian, H. Du (*Ulyanovsk Branch of Kotelnikov Institute of Radio Engineering and Electronics of Russian Academy of Sciences, Russia*) .

LTuC6 Photobleaching in Bi-Doped Germanosilicate Fibers at Different Laser Irradiation Wavelengths, Sergei V. Firstov, Sergey V. Alyshev, Elena G. Firstova, Mikhail A. Melkumov, Alexander M. Hegay, Vladimir F. Khopin, Alexey N. Guryanov, Evgeny M. Dianov (*Fiber Optics Research Center of RAS, Russia*) [15 min].

SESSION LTuF

September 27, 11:30-13:00, Hall 5

Laser System and Materials IV

Session Chair: **TBA, TBA (TBA)**

LTuF1 Spectroscopy and Highly Efficient Lasing in Tm-doped Waveguides (*invited*), Markus Pollnau, Koop van Dalen, Pavel Loiko (*KTH – Royal Institute of Technology, Sweden*) [30 min].

LTuF2 Random lasing of white light in mixture of ZnCdSSe powders, M. S. Leanenina, E. V. Lutsenko, E. V. Muravitskaya, D. I. Babuskin, A. Y. Alyamani, L. M. Alanazi, G. P. Yablonskii (*The B.I. Stepanov Institute of Physics of the National Academy of Sciences of Belarus, Belarus*) [15 min].

LTuF3 Wave processes in four-layered planar structure with nonlinear anisotropic-gradient media in case of falling of an optical beam with nongaussian complex structure., Igor P. Rudenok, Anastassiya I. Kireeva, Andrei P. Pozdnyakov (*Volgograd State Technical University, Russia*) [15 min].

LTuF4 Scattering by Polymer-Dispersed Liquid Crystal Films, V. A. Loiko, V. Ya. Zyryanov, A. A. Miskevich, A. V. Konkolovich (*B. I. Stepanov Institute of Physics of the National Academy of Sciences of Belarus, Belarus*) [15 min].

LTuF5 Time-Resolved Spectroscopy of Light-induced Refraction in Laser Materials: the Latest Results, E.V. Ivakin, I.G. Kisialiou, G.E. Malashkevich, O.L. Antipov, V.N. Sigaev (*Institute of Physics, National Academy of Sciences, Belarus*) [15 min].

SESSION LTuH

September 27, 14:30-16:30, Hall 5

Laser System and Materials V

Session Chair: **TBA, TBA (TBA)**

LTuH1 Yb-Doped Crystals For Ultrafast Lasers And Chirped-Pulse Regenerative Amplifiers (*invited*), Viktor Kisel, Alexander Rudenkov, Nikolay Kuleshov (*Center for Optical Materials and Technologies, Belarusian National Technical University, Belarus*) [30 min].

LTuH2 Lasing on huntite-like glass activated with Yb³⁺ ions, G. E. Malashkevich, V. V. Kouhar, E. V. Pestryakov, M. A. Merzliakov, V. N. Sigaev, N. V. Golubev, M. Z. Ziyatdinova (*B.I. Stepanov Institute of Physics the National Academy of Sciences of Belarus, Belarus*) [15 min].

LTuH3 Upconversion Luminescence Of CsScF₄ Crystals Doped With Erbium And Ytterbium, Denis A. Ikonnikov, V. N. Voronov, M. S. Molokee, A. S. Aleksandrovsky (*Siberian Federal University, Russia*) [15 min].

LTuH4 High-Efficiency Lasing and Optical Properties of Transparent Nd:YAG and Ho:YAG Ceramics, S.M. Vatnik, I.A. Vedin, V.V. Osipov, K.E. Luk'yashin, R.N. Maksimov, V.I. Solomonov, Yu.L. Kopylov, I.Sh. Steinberg, P.E. Tverdokhle, A.A. Pavlyuk. (*Institute of Laser Physics SB RAS, Russia*) [15 min].

LTuH5 The Development of Amplification Channels of High-Intensity Laser System with 1 kHz Repetition Rate, G.V. Kuptsov, V.V. Petrov, V.A. Petrov, A.V. Kirpichnikov, A.V. Laptev and E.V. Pestryakov (*Institute of Laser Physics of the Siberian Branch of Russian Academy of Sciences (ILP SB RAS), Novosibirsk, Russia, Russia*) .

LTuH6 Perspectives of creating powerful solid-state optical amplifiers based on a Ce³⁺:LiCaAlF₆ crystal, A.I. Galiev, V.V. Semashko, O.R. Akhtyamov, M. A. Marisov, A. S. Nizamutdinov, A.A. Shavelev (*Kazan Federal University, Russia*) .

LTuH7 Thermally Induced Beam Distortions in CaF₂ and Other Elastically Anisotropic Crystals with Cubic Symmetry, A. G. Vyatkin and E. A. Khazanov (*Institute of Applied Physics of the Russian Academy of Sciences, Russia*) [15 min].

SESSION LTuJ

September 27, 17:00-18:30, Hall 5

Laser System and Materials VI

Session Chair: **TBA, TBA (TBA)**

LTuJ1 New trends in ultrafast diode-pumped solid-state lasers (*invited*), Thomas Südmeyer (*Laboratoire Temps-Fréquence, Université de Neuchâtel, Switzerland*) [30 min].

LTuJ2 Er,Yb-GdAl₃(BO₃)₄ Laser Passively Q-Switched by MBE-grown Cr:ZnS/Cr,Co:ZnS Thin Films, K.N. Gorbachenya, V.E. Kisel, A.S. Yasukevich, N. Tolstik, E. Karhu, V. Furtula, E. Sorokin, V.V. Maltsev, N.I. Leonyuk, U. Gibson, I.T. Sorokina, N.V. Kuleshov (*Center for Optical Materials and Technologies, Belarusian National Technical University, Belarus*) [15 min].

LTuJ3 LD-pumped 4 mJ passive Q-switched Yb,Er:glass M.V. Bogdanovich, A.V. Grigor'ev, V.A. Dlugunovich, A.V. Isaevich, A.V. Holenkov, K.V. Lepchenkov, K.I. Lantsov, A.G. Ryabtsev, G.I. Ryabtsev, M.A. Shchemelev, U.S. Tsitovets (*B.I. Stepanov Institute of Physics, National Academy of Sciences of Belarus, Belarus*) [15 min].

LTuJ4 The Distortions of Laser Pulse Profile Caused by Multi-Pass Amplification, O.L. Vadimova, I.B. Mukhin, O.V. Palashov (*Institute of Applied Physics of the Russian Academy of Sciences, Russia*) [15 min].

LTuJ5 Laser-Induced Ignition of a Cryogenic Rocket Engine, Robert St"utzer, Michael B"orner, Michael Oswald (*DLR - German Aerospace Center Institute of Space Propulsion, Germany*) [15 min].

SESSION LWB

September 28, 09:00-11:00, Hall 5

Laser System and Materials VII

Session Chair: **TBA, TBA (TBA)**

LWB1 Spectroscopic and laser properties of Fe²⁺ doped Cd_{1-x}MnxTe crystals at low temperature. (*invited*), M.E. Doroshenko, V.V. Osiko, H. Jelinkova, M. Jelinek, N.O. Kovalenko, A.S. Gerasimenko (*A.M. Prokhorov General Physics Institute RAS, Russia*) [30 min].

LWB2 Single crystal ZnSe:Fe²⁺ infrared luminescence with electron beam excitation, A.A. Gladilin, V.P. Kalinushkin, N.N. Ilichev, V.P. Danilov, V.A. Chapnin, E.S. Gulyamova, P.P. Pashinin, A.V. Sidorin, M.V. Chukichev, R.R. Rezvanov, I.N. Odin (*A.M. Prokhorov General Physics Institute, Russian Academy of Sciences, Russia*) [15 min].

LWB2 Terbium Aluminum Garnet Ceramics with Different Dopants for Faraday Isolators for High-power Radiation, Aleksey Starobor, Oleg Palashov (*Federal Research Center The Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS), Russia*) [15 min].

LWB3 Efficient IR, UV and VUV lasers pumped by run-away electron preionized discharge, Alexei N. Panchenko, Nikolai A. Panchenko, Dmitry A. Sorokin, Mikhail I. Lomaev, Alexei I. Suslov (*Institute of High Current Electronics SB RAS, Russia*) [15 min].

LWB4 Amplification Gain Spectrum Control in Anisotropic Neodymium Doped Laser Crystals, G.V. Shilova, P.G. Zverev, A.A. Sirotkin (*A.M. Prokhorov General Physics Institute RAS, Russia*) [15 min].

LWB5 The shear lift force acting on microparticles actuated by magneto-optical tweezers, Maria N. Romodina, Nikita M. Shchelkunov*, Evgeny V. Lyubin, Andrey A. Fedyanin (*Lomonosov Moscow State University, Russia*) [15 min].

LWB6 Optical manipulation of RBC in laser tweezers, Abdulrazak S.H., Rozhdestvensky Y.V. (*ITMO University, Russia*) [15 min].

SESSION LTuK

September 27, 18:30-20:00, Posters Hall

Poster Session: Laser System and Materials

LTuK1 Influence of impurities on heat-mass transfer during laser cladding of metal powders, Khomenko M.D., Mirzade F.Kh., Dubrov A.V. (*Institute on Laser and Information Technologies - Branch of the Federal Scientific Research Center "Crystallography and Photonics" of Russian Academy of Sciences, Russia*) [18:30-20:00].

LTuK2 The Matrix Effect on the Generation of Neodymium Laser with Quasi-Three-Level Scheme, Herasimenka V., Navitskaya R., Stashkevich I. (*Belarussian State University, Belarus*) [18:30-20:00].

LTuK3 Color Centers Transient Absorption and Ultra-short Pulse Lasing from LiLu_{0.7}Y_{0.3}F₄:Ce³⁺ Active Medium, I. I. Farukhshin, A. S. Nizamutdinov, V. V. Semashko, S. L. Korableva, M. A. Marisov (*Kazan Federal (Volga region) university, Russia*) [18:30-20:00].

LTuK4 Fold reduction in the lasers flash lamp discharge threshold at high frequency pumped, A.M. Valshin, S.M. Pershin, G.M. Mikheev (*Prokhorov General Physics Institute of RAS, Russia*) [18:30-20:00].

LTuK5 Luminescence and stimulated emission in the heavily doped AlGa_N:Si structures by optical pumping, I. V. Osinnykh, T. V. Malin, V.F. Plyusnin, K. S. Zhuravlev, P. A. Bokhan, Dm. E. Zakrevsky, N.V. Fateev (*Rzhanov Institute of Semiconductor Physics, Siberian Branch of the Russian Academy of Sciences, Russia*) [18:30-20:00].

LTuK6 Tunable Diode-Pumped Dye Laser, O.A. Burdukova, M.V. Gorbunkov, V.A. Petukhov, V.A. Povedailo, M.A. Semenov (*State Scientific Institution B.I. Stepanov Institute of Physics National Academy of Sciences of Belarus, Belarus*) [18:30-20:00].

LTuK7 Measurement Method of Thermo-Optical Characteristics of Cubic Crystals Using Samples of Arbitrary Orientation, E.A. Mironov, A.V. Vyatkin, O.V. Palashov (*Institute of Applied Physics of the Russian Academy of Sciences, Russia*) [18:30-20:00].

LTuK8 Spectroscopic Characterization of Er³⁺:K₂YF₅: a Novel Potential Laser Crystal, Elena Vilejshnikova¹, Pavel Loiko¹, Nikolai Khaidukov, Maria Brekhovskikh, Xavier Mateos, Magdalena Aguiló, Konstantin Yumashev (*Center for Optical Materials and Technologies, Belarussian National Technical University, Belarus*) [18:30-20:00].

LTuK9 A femtosecond laser based on variable-cut YVO₄:Nd³⁺-YVO₄ crystal, Sirotkin A.A. (*General Physics Institute (GPI), Russia*) [18:30-20:00].

LTuK10 Semiconductor laser diode into asymmetrical V-shaped cavity with spectrally- and phase-nonspecific feedback mirror., V.V. Svetikov, V.I. Pustovoy (*A.M.Prokhorov General Physics Institute of the Russian Academy of Sciences, Russia*) [18:30-20:00].

LTuK11 Phase field approach to solidification including stress effects at laser sintering of metal powders, F.Kh. Mirzade (*Institute on Laser and Information Technologies of Russian Academy of Sciences, Russia*) [18:30-20:00].

LTuK12 Effect of preferential solubility of a commercial LC mixture on the electro-optical properties of Polymer dispersed liquid crystal films, A. Bouriche, L. Alachaher-Bedjaoui, A.V. Konkolovich, A.A. Miskevich, V.A. Loiko, U. Maschke (*B.I. Stepanov Institute of Physics of the National Academy of Sciences of Belarus, 68 Nezalezhnastsi prospect, Minsk 220072, Belarus, Belarus*) [18:30-20:00].

LTuK13 Improvement of output characteristics of yellow-green Cd(Zn)Se/ZnSe lasers using reflective and anti-reflective optical coatings, Ahmed Alyamani, Aliaksei G. Vainilovich, Viacheslav N. Pavlovskii, Evgenii V. Lutsenko, Gennadii P. Yablonskii, Sergey V. Gronin, Sergey V. Sorokin, Irina V. Sedova and Sergey V. Ivanov (*Institute of Physics of the National Academy of Sciences of Belarus, Belarus*) [18:30-20:00].

LTuK14 Raman Spectra of Double Crystals of Ca₁₀Me(VO₄)₇ (Me = Li, K, Na), S.V. Voitkov, I.A. Khodasevich, V.A. Orlovich, M.B. Kosmyna, A.N. Shekhovtsov (*B.I. Stepanov Institute of Physics, National Academy of Sciences of Belarus, Belarus*) [18:30-20:00].

LTuK15 Influence of Diamond Nanoparticles on the electro-optical properties of Polymer Dispersed Liquid Crystal films, C. Beyens, F. Dubois, Z. Boubberka, M. Elouali, O. Yaroshchuk, A.V. Konkolovich, A.A. Miskevich, V.A. Loiko, U. Maschke (*B.I. Stepanov Institute of Physics of the National Academy of Sciences of Belarus, 68 Nezalezhnastsi prospect, Minsk 220072, Belarus, Belarus*) [18:30-20:00].

LTuK16 The active medium of lasers based on inclusion complexes Phenalimine 160 α - and γ -cyclodextrins, S. Anufrick, H. Sazonko, V. Tarkovsky, M. Asimov (*Yanka Kupala State University of Grodno, Belarus*) [18:30-20:00].

LTuK17 Spectroscopic study of oriented Tm:SSO crystal, Yu.D.Zavartsev, A.I.Zagumennyi, Yu.L.Kalachev, S.A.Kutovoi, V.A.Mikhailov, I.A.Scherbakov (*General Physics Institute, Russia*) [18:30-20:00].

LTuK18 The acousto-optically Q-switched Tm:Ho:YbAG laser pumped at 1678 nm, Yu.D.Zavartsev, A.I.Zagumennyi, Yu.L.Kalachev, S.A.Kutovoi, V.A.Mikhailov, I.A.Scherbakov (*General Physics Institute, Russia*) [18:30-20:00].

LTuK19 Optical and electro-optical characterization of electronbeam- and UV-cured polymer/liquid crystal systems, M. Bouchakour, Y. Derouiche, Z. Boubberka, F. Dubois, C. Beyens, L. Mechernène, F. Riahi, A.V. Konkolovich, A. A. Miskevich, V.A. Loiko, Ulrich Maschke* (*Stepanov Institute of Physics of the National Academy of Sciences of Belarus, prospect Nezalezhnastsi 68, Minsk 220072, Belarus., Belarus*) [18:30-20:00].

- LTuK20 Structural Parameters of Defects in the Interface of GaN/AlN Superlattices**, Y.V. Lebiadok, T.V. Bezyazychnaya, K.S. Zhuravlev (*SSPA "Optics, Optoelectronics & Laser Technology", Belarus*) [18:30-20:00].
- LTuK21 Transverse Mode Locking of Stimulated Raman Scattering in Diode End-Pumped Nd:YVO₄/Cr⁴⁺:YAG Laser**, V.V. Bezotosnyia, M.V. Gorbyncov, V.I. Dashkevich, A.L. Koromyslov, V.A. Orlovich, Yu.M. Popov, V.G. Tunkin, E.A. Cheshev, R.V. Chulkov (*Lebedev Physical Institute Russian Academy of Sciences, Russia*) [18:30-20:00].
- LTuK22 Laser excitation of ultrasound modes of nonlinear-optical crystals for optical absorption measurement**, A. A. Molkov, A. V. Konyashkin, O. A. Ryabushkin (*Moscow Institute of Physics and Technology, Russia*) [18:30-20:00].
- LTuK23 The module of laser illumination based on the powerful AlGaAs/GaAs laser diode matrix**, D.V. Shabrov, V.V. Kabanov, Y.V. Lebiadok (*Institute of physics of NAS of Belarus, Belarus*) [18:30-20:00].
- LTuK24 Cryogenic Plasma Chemistry of Slab RF Discharge CO Laser Active Medium**, A.A. Ionin, A.Yu. Kozlov, L.V. Seleznev, D.V. Sinitsyn (*P.N. Lebedev Physical Institute of the Russian Academy of Sciences, Russia*) [18:30-20:00].
- LTuK25 Numerical investigation of multichannel laser beam phase locking in turbulent atmosphere**, V.A. Volkov, M.V. Volkov, S.G. Garanin, F.A. Starikov (*Russian Federal Nuclear Center, All-Russian Research Institute for experimental physics, Russia*) [18:30-20:00].
- LTuK26 Application of PLD to Obtain Solid Lubricant Coatings Containing Spherical Metal Nanoparticles**, D.V. Fominski, R.I. Romanov, V.Yu. Fominski, A.G. Gnedovets (*National Research Nuclear University MEPhI (Moscow Engineering Physics Institute), Russia*) [18:30-20:00].
- LTuK27 Superluminescent diode seeding of parametric amplifier at picosecond pumping**, K.A. Vereshchagin, S.N. Il'chenko, V.B. Morozov, A.N. Olenin, V.G. Tunkin, D.V. Yakovlev, S.D. Yakubovich (*Lomonosov Moscow State University, International Laser Center and Physics Faculty, Russia*) [18:30-20:00].
- LTuK28 Bessel Light Beam of the Second Order Formation with Uniaxial Crystal**, I. V. Balykin, A. A. Ryzhevich, A. G. Mashchenko, V. E. Leparskii, N. A. Khilo (*Institute of Physics of NAS of Belarus, Belarus*) [18:30-20:00].
- LTuK29 Theoretical Description of DFB Dye Lasing by Polarization Modulation**, D.V. Novitsky, V.M. Katarkevich, T.Sh. Efendiev (*B.I. Stepanov Institute of Physics, National Academy of Sciences of Belarus, Belarus*) [18:30-20:00].
- LTuK30 New efficient laser dyes for the red region. Periindenones**, S.P. Belov, O.A. Burdukova, I.V. Komlev, V.A. Petukhov, V.A. Povedailo, M.A. Semenov (*State Scientific Institution "B.I. Stepanov Institute of Physics National Academy of Sciences of Belarus", Belarus*) [18:30-20:00].
- LTuK31 Phase locking of seven-channel continuous wave fiber laser system by using stochastic parallel gradient algorithm**, M.V. Volkov, S.G. Garanin, U.V. Dolgopолоv, A.V. Kopalkin, S.M. Kulikov, D.N. Sinyavin, F.A. Starikov, S.A. Sukharev, S.V. Tutin, S.V. Khohlov, D.A. Chaparin. (*RFNC – VNIIEF, Russia*) [18:30-20:00].
- LTuK32 High-Efficiency Laser Based on 4.5%Tm:KLu(WO₄)₂ Octagon Rod**, S.M. Vatrik, I.A. Vedin, P.F. Kurbatov, A.A. Pavlyuk (*Institute of Laser Physics SB RAS, Russia*) [18:30-20:00].
- LTuK33 Application of X-ray radiation for manufacturing of BBO optical samples with greater efficiency.**, I.I. Kalashnikova, V.S. Naumov, G.Yu. Orlova (*R&D Institute Polyus, Russia*) [18:30-20:00].
- LTuK34 Application of laser to control the surface roughness based on nanoparticles luminescence effect.**, Bazylenko V.A., Shaposhnikov L.V. (*Moscow State University, Russia*) [18:30-20:00].
- LTuK35 A way to control the authenticity of products based on reflected laser second harmonic generation.**, Bazylenko V.A., Shaposhnikov L.V. (*Moscow State University, Russia*) [18:30-20:00].
- LTuK36 Connection between YVO₄ slope efficiency and reticular density of various crystallographic planes**, I.I. Kalashnikova¹, V.S. Naumov¹, G.Yu. Orlova¹, A.A. Sirotkin² ¹ R&D Institute Polyus, 117342, Vvedenskii St. 3, Moscow, Russia ² Prokhorov General Physics Institute of the Russian Academy of Sciences, 119991, Vavilov 38, Moscow, Russia. (*R&D Institute Polyus, Russia*) [18:30-20:00].
- LTuK37 Semianalytical Method to Describe Small-Angle Scattering of Light by Monolayer of Polydisperse Nematic Droplets**, A.V. Konkolovich, M.N. Krakhalev, A.A. Miskevich, O.O. Prishchepa, V.Y. Zyryanov, V.A. Loiko (*Stepanov Institute of Physics of the National Academy of Sciences of Belarus, Belarus*) [18:30-20:00].
- LTuK38 Simulation of Coherent Transmittance and Reflectance of Ordered Sequences of Particulate Monolayers with Imperfect Lattices**, A.A. Miskevich, V.A. Loiko (*Institute of Physics of NAS of Belarus, Belarus*) [18:30-20:00].

LTuK39 HIGH RESOLUTION SPECTROSCOPY OF Ho³⁺ ION IN THE MATRIX OF LiYF₄ CRYSTAL, PLACED IN EXTERNAL MAGNETIC FIELD, M.N. Popova, K.N. Boldyrev (*Institute of Spectroscopy, Russian Academy of Sciences, Russia*) [18:30-20:00].

LTuK40 Light-induced periodic structures and their characteristics in crystals CaF₂-LuF₃, activated by Ce³⁺ and Yb³⁺ ions, N. F. Rakhimov, A. S. Nizamutdinov, V. V. Semashko, M. A. Marisov, S. A. Shnaidman (*Kazan Federal University, Russia*) [18:30-20:00].

LTuK41 Spectroscopic Properties of UV Active Media Ce³⁺:LiCa_{1-x}Sr_xAlF₆, A. A. Shavelev, A. S. Nizamutdinov, V. V. Semashko, M. A. Marisov (*Kazan Federal University, Russia*) [18:30-20:00].

LTuK42 Photodynamic processes vs lasing in Ce,Yb:LiYLu_{1-x}F₄ crystals, L.A. Nurtdinova, S.L. Korableva (*Kazan Federal University, Russia*) [18:30-20:00].

LTuK43 The Use of Laser Technology for Creation of Straw Type Ionizing Radiation Detectors, L.E. Batay, N.A. Bosak, A.N. Chumakov, N.A. Kuchinskiy, N.P. Kravchuk (*B.I. Stepanov Institute of Physics of National Academy of Sciences of Belarus, Belarus*) [18:30-20:00].

LTuK44 Effect of Spectrum Condensation in a Two-Isotope Gas Laser, A. V. Gusev, T. V. Radina (*St. Petersburg State University, Russia*) [18:30-20:00].

LTuK45 Lighting and hygienic aspects of application of light emitting diode sources, V. Lapina, S. Trofimov, P. Zak, P., Pershukevich, T. Pavich, N. Trofimova, Yu. Tsaplev (*Institute of Physics of NAS Belarus, Belarus*) [18:30-20:00].

LTuK46 Spectroscopic investigation of Sm³⁺:KY(WO₄)₂ crystal, M.P. Demesh, O.P. Dernovich, N.V. Gusakova, A.S. Yasukevich, N.V. Kuleshov, A.A. Pavlyuk, A.A. Kornienko, E.B. Dunina (*Center for Optical Materials and Technologies, Belarusian National Technical University, Belarus*) [18:30-20:00].

LTuK47 Laser Beam Stabilization in the CNC Machines, Yuri Fedosov, Maxim Afanasiev, Alexander Trifanov (*University ITMO, Russia*) [18:30-20:00].

LTuK48 Temperature Measurement of Laser Materials with Probe Piezoelectric Crystals, A.E. Korolkov, O.A. Ryabushkin, A.V. Konyashkin (*Moscow Institute of Physics and Technology, Russia*) [18:30-20:00].

LTuK49 Energy Transfer in Tm,Ho:KY(WO₄)₂ Crystals with Different Doping Levels, S.V. Kurilchik, A.S. Yasukevich, N.V. Gusakova, N.V. Kuleshov (*Belarusian National Technical University/ Center for Optical Materials and Technologies, Belarus*) [18:30-20:00].

LTuK50 Optical Unit for Technological Equipment, Maxim Afanasiev, Galina Romanova, Yuri Fedosov, (*ITMO University, Russia*) [18:30-20:00].

LTuK51 Methods to Optimize the Moving Trajectory During Laser Processing, Yuri Fedosov, Maxim Afanasiev, Sergey Akimov (*ITMO University, Russia*) [18:30-20:00].

LTuK52 Bend Sensor Based on a Section of Double-Cladding Optical Fiber and Two Wavelengths Interrogation, Oleg V. Ivanov, Sergey V. Vasin (*Ulyanovsk Branch of Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Russia*) [18:30-20:00].

2. Laser Remote Sensing and Tunable Diode

Laser Spectroscopy

Different laser techniques and applications for remote sensing of environmental objects and phenomena; new spectroscopic approaches for environmental applications; short laser pulse ranging; novel methods for soil and water surface characterization; laser induced plasma spectroscopy for chemical analysis of environmental objects.

Chairs: Vladislav Mikhalevich (Prokhorov General Physics Inst., Russia);
Anatoly Chaikovsky (B.I.Stepanov Insti. of Physics, Belarus)

SESSION LMA

September 26, 11:00-13:00, Hall 4

Laser Remote Sensing and Tunable Diode Laser Spectroscopy I

Session Chair: TBA, TBA (TBA)

LMA1 Characteristics of atmospheric dust and cirrus clouds derived from multiwavelength Raman lidar measurements during SHADOW campaign in Senegal. (*invited*), Igor Veselovskii, Philippe Goloub, Thierry Podvin, Didier Tanre, Mikhail Korenskiy, Qiaoyun Hu (*Physics Instrumentation Centre General Physics Institute by A.M. Prokhorov RAS, Russia*) [30 min].

LMA2 Optical Studies of the Atmosphere and Surface in Antarctica (*invited*), E. Zege, I. Katsev, M. Korol, F. Goloub, A. Ivanov, L. Blarel, S. Denisov, V. Dick, A. Malinka, F. Osipenko, T. Podvin, A. Prikhach, L. Chaikovskaya, A. Fedarenka, A. Lapyonok, V. Svidinsky (*B.I. Stepanov Institute of Physics of the National Academy of Sciences of Belarus, Belarus*) [30 min].

LMA3 Investigation of crater evolution during laser treating of materials, A Yu Ivanov, A V Kapytsky, V I Nedolugov, S V Vasil'ev (*Grodno State University, Belarus*) [15 min].

LMA4 Multifrequency Lidar Sensing of Atmospheric Aerosol under Conditions of Information Uncertainty, Lisenko S.S., Kugeiko M.M., Khomich V.V. (*Belorussian State University, Belarus*) [15 min].

LMA5 Sensitive, Time-Resolved and Broadband Measurements in Shock Tubes and Electric Discharges using Intracavity Absorption Spectroscopy with Home-Made Fiber Lasers, Peter Fjodorow, Mustapha Fikri, Christof Schulz, Valeri M. Baev (*University of Duisburg-Essen, Institute for Combustion and Gas Dynamics - Reactive Fluids, Germany*) [15 min].

LMA6 Laser-Induced Gratings in Probing Ionic Liquids, D.N. Kozlov, J. Kiefer, T. Seeger, A.P. Fröba, A. Leipertz (*A.M. Prokhorov General Physics Institute, Russian Academy of Sciences, Russia*) [15 min].

SESSION LMC

September 26, 16:30-17:30, Hall 4

Laser Remote Sensing and Tunable Diode Laser Spectroscopy II

Session Chair: TBA, TBA (TBA)

LMC1 Remote Sensing of Arctic Fjords and freshwater reservoir by Raman Lidar (*invited*), S. M. Pershin¹, A. F. Bunkin¹, M.Ya. Grishin^{1,2}, V.K.Klinkov¹, V. N. Lednev^{1,2}, E. G. Morozov⁴, A.V. Marchenko⁵, S.A. Ermakov⁶, I.A. Kapustin⁶ and A.A. Molkov⁶ (*Prokhorov General Physics Institute, Russian Academy of Sciences, Moscow, Russia, Russia*) [30 min].

LMC2 Temperature Dependent Line Broadening of the Liquid Water Raman Bands in Remote Sensing: Multimode Brownian Oscillator Model, Roman Yu. Pishchalnikov, Sergei M. Pershin (*Prokhorov General Physics Institute, Russian Academy of Sciences, Russia*) [15 min].

LMC3 Prototype Of Laser Gas Analyzer Of DIAL Technique For Track Measurements In Urban Conditions On The Basis Of Ce:LiCaAlF₆ Laser, A. S. Nizamutdinov, M. S. Zuev, V. V. Semashko (*Kazan Federal University, Russian Federation*) [15 min].

SESSION LTuB

September 27, 09:00-10:30, Hall 4

Laser Remote Sensing and Tunable Diode Laser Spectroscopy III

Session Chair: TBA, TBA (TBA)

LTuB1 A new generation of super compact trouble free lidar (*keynote*), S. M. Pershin (*Prokhorov General Physics Institute of RAS, Russia*) [45 min].

LTuB2 Laser Induced Breakdown Spectroscopy by Picosecond Pulses Train vs Nanosecond Pulse, Lednev V.N., Pershin S.M., Filippov M.N. (*National University of Science and Technology MISiS, Moscow, Russia, Russia*) [15 min].

LTuB3 Temperature Measurement by Projection to Latent Structures of Fluorescence Spectra, V.A.Aseev, A.N.Babkina, M.A.Khodasevich, P.S. Shirshnev, Y.A.Varaksa (*B.I.Stepanov Institute of Physics, NAS Belarus, Belarus*) [15 min].

LTuB4 Measurements of temperature and positive gain of Oxygen-Iodine laser active media, Yu. A. Adamenkov (*RFNC-VNIIEF, Russia*) [15 min].

SESSION LTuE

September 27, 11:30-12:45, Hall 4

Laser Remote Sensing and Tunable Diode Laser Spectroscopy IV

Session Chair: TBA, TBA (TBA)

LTuE1 The development of tunable diode laser spectroscopy in gas analysis and high resolution spectroscopy (*invited*), Iakov Ponurovskiy (*A.M. Prokhorov General Physics Institute, tr., , , Russia*) [30 min].

LTuE2 Diode laser spectroscopy of trace gases in atmosphere with external resonator, I.V.Nikolaev, V.N.Ochkin, S.N.Tskhai (*P.N. Lebedev Physical Institute RAS, Russia*) [15 min].

LTuE3 Measurement of pressure broadening coefficient of the Ar absorption line at 811.5 nm with a diode laser, A.R.Ghildina, P.A.Mikheyev, A.K.Chernyshov, N.I.Ufimtsev, V.N.Azyazov, M.C.Heaven (*Samara National Research University, Russia*) [15 min].

LTuE3 Photoacoustic gas sensors based on tunable diode lasers, A.L. Ulasevich, A.A. Kouzmouk (*B.I.Stepanov Institute of Physics, Belarus*) [15 min].

SESSION LTuL

September 27, 18:30-20:30, Posters Hall

Lposter Session: Laser Remote Sensing and Tunable Diode Laser Spectroscopy

LTuL1 Reflection factors of mirrors for fiber optic sonar antenna, V.N. Sorokovikov, V.I. Pustovoy (*A.V. Prokhorov General Physics Institute, Russia*) [18:30-20:00].

LTuL2 Mach-Zehnder PLC sensor for measurement of refractive index changes in gas and liquid mediums, O.A. Podtelkina, V.V. Svetikov, N.A. Djuzhev (*A.M.Prokhorov General Physics Institute of the Russian Academy of Sciences, Russia*) [18:30-20:00].

LTuL3 InAs/InAsSb/InAsSbP heterostructure for measurement concentration of carbon dioxide and monoxide, D.M. Kabanau, Y.V. Lebiadok, Y.P. Yakovlev (*SSPA "Optics, Optoelectronics & Laser Technology", Belarus*) [18:30-20:00].

LTuL4 Application of Green Upconversion Fluorescence in Er-Doped Germanate Glass for Temperature Measurement, Y.A. Varaksa, M.A. Khodasevich, V.A. Aseev, G.V. Sinitsyn, G.E. Malashkevich, K. Akinshau (*B.I.Stepanov Institute of Physics, NAS Belarus,, Belarus*) [18:30-20:00].

LTuL5 Polarized fluorescence of carboxyfluorescein label conjugated with oligonucleotide, A. P. Blokhin, M.V. Kvach, V.A. Povedailo, V.V. Shmanai, D.L. Yakovlev (*B .I. Stepanov Institute of Physics, National Academy of Sciences of Belarus, Belarus*) [18:30-20:00].

LTuL6 Thermal quenching of luminescence of GaInAsSb and InAsSbP heterostructures, D.M. Kabanau, Y.V. Lebiadok, Y.P. Yakovlev (*SSPA 'Optics, Optoelectronics & Laser Technology', Belarus*) [18:30-20:00].

LTuL7 Excitation of miniature photoacoustic cells by zero order Bessel beams, A.L. Ulasevich, A.A. Kouzmouk (*B.I.Stepanov Institute of Physics NASB, Belarus*) [18:30-20:00].

LTuL8 Reference Channel with the Controlled Intensity for a Remote Gas Analyzer, V.A. Gorobets, B.F. Kuntsevich, I.N. Puchkovsky (*B.I. Stepanov Institute of Physics, NAS Belarus, Belarus*) [18:30-20:00].

LTuL9 New Approach to the Description of the Active-Pulse Vision Systems, B. F. Kuntsevich, V. P. Kabashnikov, V. A. Gorobets (*B.I. Stepanov Institute of Physics of NAS Belarus, Belarus*) [18:30-20:00].

LTuL10 Laser induced breakdown spectrometry for elemental analysis of high wear resistant coating produced by laser cladding, Sdvizhenskii P.A., Lednev V.N., Grishin M.Ya., Pershin S.M., Filippov M.N., Fedorov A.N., Davidov M.A., Tretyakov R.S., Staverty A.Ya. (*National University of Science and Technology MISiS, Russia*) [18:30-20:00].

LTuL11 PRELIMINARY RESULTS OF MEASUREMENT OF METHANE AND CARBON DIOXIDE IN THE ARCHIPELAGO NEW EARTH AND IN MOSCOW REGION BY DIODE LASER SPECTROSCOPY FROM THE AIRCRAFT-LABORATORY YAK-42D "ROSHYDROMET", A. Kuzmichev, A. Nadezhdinskii, Ya. Ponurovskiy, D. Stavrovskii, Y. Shapovalov, V. Zaslavskii, V. Khattatov, V.Galaktionov (*General Physics Institute, Russia*) [18:30-20:00].

3. Ultra-Fast Diagnostics in Laser Research

High-speed imaging & videography, CCD techniques, diagnostics and applications; pump-probe techniques; ultrafast spectroscopy, interferometry and holography; high-speed cameras, streak tubes, sensors and circuits; X-ray, visible and near IR image-tube high-speed photography; image processing, data analysis and visualization; computer modeling in charge particle imaging; application of laser-oriented high-speed instrumentation in biophysics, medicine, detonics, ballistics, impact, shock-waves investigation, flow visualization, plasma and laser fusion imaging, high-energy physics, airspace research, sport science.

Chairs: Mikhail Schelev (Prokhorov General Physics Inst., Russia); Konstantin Vereshchagin (Prokhorov General Physics Inst., Russia); Sergei Tikhomirov (B.I.Stepanov Inst. of Physics, Belarus)

SESSION LTuG

September 27, 14:30-16:30, Hall 4

Ultra-Fast Diagnostics in Laser Research I

Session Chair: TBA, TBA (TBA)

LTuG1 Status of Novosibirsk Free Electron Lasers and Their Applications to Study of Fast Processes (*keynote*), G. Kulipanov, E. Chesnokov, Ya. Getmanov, V. Kubarev, O. Shevchenko, A. Vasiliev, N. Vinokurov. (*Budker Institute of Nuclear Physics, Russia*) [45 min].

LTuG2 ULTRA Laser Facility Applications for Chemistry, Life Sciences and Catalysis (*invited*), Igor V. Sazanovich, Gregory M. Greetham, Ian P. Clark, Inés Lezcano-González, Andrew M. Beale, Milan Delor, Julia A. Weinstein, James P. Hall, Susan J. Quinn, Pavel Matousek, Anthony W. Parker, Michael Towrie (*Central Laser Facility Research Complex at Harwell STFC Rutherford Appleton Laboratory, UK*) [30 min].

LTuG3 High-Voltage Pico- and Nanosecond Discharge Development in Gaseous and Liquid Media (*invited*), N.L. Aleksandrov, E.M. Anokhin, I.N. Kosarev, A.Yu. Starikovskiy (*Moscow Institute of Physics and Technology, Russia*) [30 min].

LTuG4 Study of Single Femtosecond Filamentation in Gas by Transverse Interferometry Method, P.A. Chizhov, V.V. Bukin, A.A. Ushakov, S.V. Garnov (*Prokhorov General Physics Institute of Russian Academy of Sciences, Russia*) [15 min].

SESSION LTuI

September 27, 17:00-18:45, Hall 4

Ultra-Fast Diagnostics in Laser Research II

Session Chair: TBA, TBA (TBA)

LTuI1 Defects in Solid State Materials as a Result of Interaction with Charged Particles and High-Energy Photons and Their Applications for Radiation Detectors and Imaging on Nanometric Scale (*invited*), A.P. Voitovich, R.M. Montereali, V.S. Kalinov, A.N. Novikov, L.P. Runets, A.P. Stupak (*Institute of Physics, National Academy of Sciences, Belarus*) [30 min].

LTuI2 Electric field fast measurement in pulse discharges at elevated gas pressure (*invited*), S.N.Tskhai, S. Yatom, Ya. E. Krasik (*P.N. Lebedev Physical Institute RAS, Russia*) [30 min].

LTuI3 "Femtosecond Pump-to-Probe Spectroscopy of primary events in photosynthesis" (*invited*), Dmitriy Cherepanov, Fedor Gostev, Mahir Mamedov, Ivan Shelaev, Alexey Semenov, Vladimir Shuvalov, (*N.N.Semenov Institute of Chemical Physics Russian Academy of Sciences,, Russia*) [30 min].

LTuI4 Dynamics of Photoinduced TICT-process for Thioflavin T in n-Alcohols, V. Stsiapura, O. Bouganov, S. Tikhomirov (*Yanka Kupala State University, Belarus*) [15 min].

SESSION LWD

September 28, 11:30-13:00, Hall 5

Ultra-Fast Diagnostics in Laser Research III

Session Chair: TBA, TBA (TBA)

LWD1 Pico-Femtosecond Image-Tube Instrumentation in Experimental Physics (*invited*), M.Ya. Schelev, K.A. Vereshchagin (*A.M. Prokhorov General Physics Institute, Russian Academy of Sciences, Moscow, 38 Vavilov str., Russia*) [30 min].

LWD2 New generation of streak tubes producing by VNIIA, P.I. Konovalov, A.Yu. Sokolov, R.I. Nurtdinov, M.P.Vikulin, I.G.Pryanishnikov, A.S. Dolotov (*Dukhov Research Institute of Automatics (VNIIA), Russia*) [15 min].

LWD3 Lasers and streak-cameras at physics of accelerators (*invited*), O.I.Meshkov (*Budker Institute of Nuclear Physics, Russia*) [30 min].

LWD4 X-ray diffractometry with synchrotron radiation for exploration of fast processes in solids with nanosecond time resolution (*invited*), (*Institute of Solid State Chemistry and Mechanochemistry SB RAS, Novosibirsk, Russia, Russia*) [30 min].

SESSION LWG

September 28, 17:00-18:30, Hall 5

Ultra-Fast Diagnostics in Laser Research IV

Session Chair: TBA, TBA (TBA)

LWG1 Two photon processes for a fast timing in nuclear instrumentation (*invited*), Mikhail Korjik, Oleg Bugnavov, Andrei Fedorov, Vitaly Mechinsky, Sergei Tichomirov, Gintautas Tamulaitis, Etienne Auffray, Marco Lucchini (*Institute for Nuclear Problems of Belarus State University, Belarus*) [30 min].

LWG2 Andor Technology: advanced and versatile camera technology for nanosecond gated imaging and spectroscopy (*invited*), Thorsten Pieper, Yuri Zheleznov (*LOT-QuantumDesign GmbH, Germany*) [30 min].

LWG3 A new method of electron scrubbing of microchannel plates, P.I. Konovalov, A.S. Dolotov, R.I. Nurtdinov, M.P. Vikulin (*Dukhov Research Institute of Automatics (VNIIA), Russia*) [15 min].

LWG4 ULTRAFAST DEACTIVATION OF EXCITATION ENERGY IN RUTIN AND QUERCETIN VIA ELECTRON AND PROTON TRANSFERS, S.L. Bondarev, S.A. Tikhomirov, V.N. Knyuksho, O.V. Baganov, A.D. Shirokanov, T.F. Raichenok, (*B.I. Stepanov Institute of Physics, National Academy of Sciences of Belarus, Belarus*) [15 min].

SESSION LTuM

September 27, 18:30-20:00, Posters Hall

Poster Session: Ultra-Fast Diagnostics in Laser Research

LTuM1 Speeded up lifetime testing technique for streak tubes, A.Yu. Sokolov, P.I. Konovalov, M.P. Vikulin (*Dukhov Research Institute of Automatics (VNIIA), Russia*) [18:30-20:00].

LTuM2 MCP PMT with high time response and linear output current for neutron time-of-flight detectors, A.S. Dolotov, P.I. Konovalov, R.I. Nurtdinov, M.P. Vikulin (*Dukhov Research Institute of Automatics (VNIIA), Russian Federation*) [18:30-20:00].

LTuM3 Femtosecond Interferometry as a Tool for Optimal Control of Ions Photofragmentation., Mikhail V. Korolkov, Karl-Michael Weitzel (*B.I. Stepanov Institute of Physics, National Academy of Science, Minsk, Belarus*) [18:30-20:00].

LTuM4 Numerical simulation of temperature dynamics in TiAlN thin films on Si substrate under nanosecond laser irradiation, G.D. Ivlev, O.R. Ludchik, E.I. Gatskevich (*Belarusian National Technical University, Belarus*) [18:30-20:00].

LTuM5 Dynamics of nanopulsed laser annealing of thin film germanium, G.D. Ivlev, S.L. Prakopyev, E.I. Gatskevich, R.I. Batalov, R.M. Bayazitov, I.A. Faizrahmanov (*Belarusian National Technical University, Belarus*) [18:30-20:00].

LTuM6 Stabilization CEO of Kilohertz Solid-State Laser System for Attosecond Pulses Generation Experiments, A.V. Kirpichnikov, V.V. Petrov, G.V. Kuptsov, A.V. Laptev, V.A. Petrov, E.V. Pestryakov, V.I. Трунов. (*Федеральное государственное бюджетное учреждение науки Институт лазерной физики Сибирского отделения Российской академии наук (ИЛФ СО РАН), Russia*) [18:30-20:00].

LTuM7 Processing of Fiber Optic Bragg Sensor Signal by Fiber Bragg Gratings Filters, O.V. Butov, A.A. Chertoriyskiy, O.V. Ivanov, A.M. Nizametdinov, V.L. Vesnin (*Ulyanovsk Branch of the Kotelnikov Institute of Radioengineering and Electronics of Russian Academy of Sciences, Russia*) [18:30-20:00].

LTuM8 Dynamics of Photoinduced Processes in Copper(II) Mixed Halides, Pavel K. Olshin, Alexey V. Povolotskiy, Andrey S. Mereshchenko (*Saint Petersburg State University, Russia*) [18:30-20:00].

4. Biophotonics and Laser Biomedicine

NANOBIOPHOTONICS (Metal-enhanced fluorescence. IR-nanophotosensitizers. Ultrafast lasers and nanoparticle interaction. Nanoparticles contrast agents for medical diagnostics. Multiphoton spectroscopy, microscopy and imaging. Fluorescence lifetime and two-photon imaging.) CLINICAL TECHNOLOGIES AND SYSTEMS (Optical instrumentation and devices, including microscopes and endoscopes for fluorescence imaging. Optical fibers and waveguides. THz spectroscopy and imaging. Bioimplants for permanent tissue imaging and controlling) PHOTOTHERANOSTICS (Fluorescence-guided resection and therapy various neoplasms. Immunophotonics in theranostics. Phototherapy with Cerenkov radiation.) NEUROPHOTONICS (Neurosurgery navigation. Photodynamic therapy in neurosurgery. Stereotactic technology. Scaffolds for brain theranostics. Neural regeneration.)

Chairs: Viktor Loschenov (Prokhorov General Physics Inst., Russia); Rudolf Steiner (Institut für Lasertechnologien in der Medizin (ILM), Germany); Boris Dzhagarov (B.I.Stepanov Inst. of Physics, Belarus)

SESSION LWA

September 28, 09:00-11:00, Hall 4

Biophotonics and Laser Biomedicine I

Session Chair: TBA, TBA (TBA)

LWA1 On the estimation of tissue optical parameters from diffuse reflectance spectroscopy (*keynote*), Walter C.P.M. Blondel, Prisca Rakotomanga, Maria Kholodtsova, Christian Daul, Viktor B. Loschenov, Marine Amouroux, Charles Soussen (*Université de Lorraine, CRAN, 54516 Vandoeuvre-Lès-Nancy cedex, France CNRS, CRAN, 54516 cedex, France, France*) [45 min].

LWA2 NEAR INFRARED IMAGING FOR ANGIOGRAPHY IN DIABETIC FOOT (*invited*), Z. N. Abdulvapova, P.V. Grachev, O.N. Bondarenko, G.R. Galstyan (*Endocrinology Research Centre, Russia*) [30 min].

LWA3 Photodynamic Therapy of Gonarthrosis with Fotoditazin (*invited*), Zharova T.A., Ivannikov S.V., Tonenkov A.M., Stranadko E.Ph., Semenova L.A., Smorchkov M.M., Makarov V.I., Romanishkin I.D., Ryabova A.V., Loschenov V.B. (*I.M. Sechenov First Moscow State Medical University, Moscow, Russia A.M. Prokhorov Institute of General Physics, Moscow, Russia, Russia*) [30 min].

LWA4 Spectral-Temporal Pulse Construction for Optimal Nonlinear Raman Brain Imaging, E.A. Stepanov, A.A. Lanin, D.A. Sidorov-Biryukov, A.B. Fedotov, A.M. Zheltikov (*Physics Department, International Laser Center, M.V. Lomonosov Moscow State University, Russia*) [15 min].

LWA5 Near-IR Laser Heating of Rare-Earth Doped Composite Nanoparticle Colloids, I.R. Romanishkin, Y.V. Orlovskii, I.A. Burmistrov, D.V. Pominova, A.S. Vanetsev, E.O. Orlovskaya, A.V. Ryabova (*A.M. Prokhorov General Physics Institute, Russian Academy of Sciences, Russia*) [15 min].

SESSION LWC

September 28, 11:30-13:00, Hall 4

Biophotonics and Laser Biomedicine II

Session Chair: TBA, TBA (TBA)

LWC1 Combined Spectroscopic Technique in Low-grade Glioma Neurosurgery Navigation (*invited*), Savelieva T.A., Goryainov A.A., Potapov A.A. (*GPI RAS, Russia*) [30 min].

LWC2 The Development of methods for fluorescence imaging in theranostics oncological disease (*invited*), Filonenko EV*, Kaprin AD*, Urlova AN*, Loschenov MV** (*National Medical Research Radiological Centre of the Ministry of Health of the Russian Federation, Russia*) [30 min].

LWC3 Developing algorithms and software for fluorescence imaging of intracavitary organs, Anam A. A., Loshchenov M. V. (*National Research Nuclear University "MEPhI", Russia*) [15 min].

LWC4 The Spectral Fluorescence Method of the Bacteriochlorin Accumulation Dynamic Estimation in the Mice Skin with Superficial Wound Staphylococcus Infection, Akhlyustina E.V., Maklygina Yu.S., Borodkin A.V., Ryabova A.V., Kuneva A.A., Rybakova P.A., Yakovlev D.V., Meerovich G.A., Filonenko E.V. (*National research nuclear university "MEPHI", Russia*) [15 min].

LWC5 Study of the fluorescence intensity decay of nanophotosensitizers using time-resolved spectroscopy methods, F.G. Bystrov, V.I. Makarov, V.B. Loschenov (*A.M. Prokhorov General Physics Institute, RAS, Russia*) [15 min].

SESSION LWF

September 28, 17:00-18:30, Hall 4

Biophotonics and Laser Biomedicine III

Session Chair: TBA, TBA (TBA)

LWF1 Broadband Terahertz in-line Phase Contrast Imaging, A.A. Ushakov, P.A. Chizhov, V.V. Bukin, A.B. Savel'ev, S.V. Garnov (*A.M. Prokhorov General Physics Institute Russian Academy of Science, M.V. Lomonosov Moscow State University, Russia*) [15 min].

LWF2 The Study of Aluminum Phthalocyanine Nanoparticle Fluorescent Properties Changes in Tissue Engraftment for the Small Laboratory Animals Cross Skin Transplantation, Farrakhova D.S., Akhlyustina E.V., Makarov V.I., Pominova D.V., Ryabova A.V. (*National Research Nuclear University MEPhI, Russia*) [15 min].

LWF3 Raman and FTIR spectroscopy in the THz frequency range in the study of protein structure, A. A. Mankova, N. N. Brandt, and A. Yu. Chikishev (*Faculty of Physics, Moscow State University, Russia*) [15 min].

LWF4 Aluminum phthalocyanine nanoparticles as a contrast agent for the detection of tooth enamel microdamage, Julia O. Kuznetsova, Dina S. Farrakhova, Maxim G. Yassin (*National Research Nuclear University MEPhI, Russia*) [15 min].

LWF5 Joint Application of Fluorescence Imaging and Local Fluorescence Spectroscopy for PD and PDT of Skin Cancer, Mukhin A.E., Borodkin A.V., Grachev P.V., Stranadko E.F. (*National Research Nuclear University MEPhI, Russia*) [15 min].

LWF6 ADAPTIVE OPTICS MULTISPECTRAL FUNDUS-CAMERA (AOMFC) FOR DETECTION OF RETINAL PATHOLOGY, Bolshunov A.V., Katalevskaya E.A., Larichev A.V., Iroshnikov N.G. (*Research Institute for Eye Diseases, Russia*) [15 min].

SESSION LThA

September 29, 09:00-11:00, Hall 4

Biophotonics and Laser Biomedicine IV

Session Chair: TBA, TBA (TBA)

LThA1 Optical Coherence Tomography: Technology and Applications (*keynote*), James G. Fujimoto (*Massachusetts Institute of Technology (MIT), USA*) [45 min].

LThA2 AFTEREFFECT OF LOW-INTENSITY OF HE-NE LASER IRRADIATION ON THE ACTIVATION OF ATP SYNTHESIS AND REPROGRAMMING OF THE GENOME (*invited*), T. I. Karu, V. M. Manteifel, L. V. Pyatibrat (*Institute of Crystallography and Photonics of RAN, Russia*) [30 min].

LThA3 Noninvasive blood glucose monitoring with THz reflection spectroscopy (*invited*), O. P. Cherkasova, M.M.Nazarov, A. P. Shkurinov (*Institute of Laser Physics of SB RAS, Russia*) [30 min].

LThA4 High efficiency stimulated low-frequency Raman scattering in water/buffer suspension of potato viruses (PVX&PVA), A F Bunkin, M Ya Grishin, O V Karpova, A D Kudryavtseva, V N Lednev, T V Mironova, S M Pershin, E K Petrova, M A Stokov, N V Tcherniega, K I Zemskov (*P.N. Lebedev Physical Institute RAS, Russia*) [15 min].

LThA5 Optimization of Spectral Range of Radiation to Enhance the Efficiency of Phototherapy for Neonatal Jaundice, V. Yu. Plavskii, A. V. Mikulich, I. A. Leusenko, A. I. Tretyakova, L. G. Plavskaya, N. S. Serdyuchenko, J. Gao, D. Xiong, X. Wu (*B.I. Stepanov Institute of Physics of NAS of Belarus, Belarus*) [15 min].

SESSION LThB

September 29, 11:30-13:00, Hall 4

Biophotonics and Laser Biomedicine V

Session Chair: TBA, TBA (TBA)

LThB1 Sensitizer-nanoparticles for tissue diagnostics and PDT (*invited*), Rudolf Steiner, Claudia Scalfi-Happ, Rainer Wittig, Anastasia Ryabova, Susanna Gräfe and Victor Loschenov (*Institut für Lasertechnologien in der Medizin und Messtechnik an der Universität Ulm, Germany*) [30 min].

LThB2 Sapphire Shaped Crystals for Phototheranostics and Combined Anticancer Therapy (*invited*), Shikunova I.A., Volkov V.V., Kurlov V.N. (*Institute of Solid State Physics Russian Academy of Sciences (ISSP RAS), Russia*) [30 min].

LThB3 Spectral luminescent properties of bacteriochlorin and aluminum phthalocyanine nanoparticles as hydroxyapatite implant surface coating., A.S. Sharova, Yu. S. Maklygina, B. Kundu, V.K. Balla, R. Steiner, V.B. Loschenov. (*National Research Nuclear University MEPhI (Moscow Engineering Physics Institute), Russia*) [15 min].

LThB4 Infrared (3-15 mkm) fiber skin in vivo spectroscopy and physiotherapy, L.N. Butvina, A.L. Butvina, V.D. Bitsoev (*Fiber Optic Research Center of Russian Academy of Sciences, Russia*) [15 min].

LThB5 Dissection of biological tissues under the influence of pulsed and quasi-continuous laser radiation, G.I. Zheltov, V.D. Burko, O.G. Romanov (*Belarusian State University Faculty of Physics Department of Computer Modeling, Belarus*) [15 min].

LThB6 Laser Induced Relaxation of Triplet States for Sterically Distorted Metalloporphyrins, E. Zenkevich, A. Starukhin, V. Knyukshto, A. Gorski, M. Kijak, J.Solarski, A. Semeikin, T. Lyubimova, J. Waluk (*National Technical University of Belarus, Belarus*) [15 min].

SESSION LThC

September 29, 14:30-16:30, Hall 4

Biophotonics and Laser Biomedicine VI

Session Chair: TBA, TBA (TBA)

LThC1 Spectroscopic Evaluation Method of Angiogenesis in the Healing of Skin Grafts Using Spectrally Sensitive to Inflammatory Reactions Aluminum Phthalocyanine Nanoparticles, Makarov V.I., Pominova D.V., Kholostsova M.N., Ryabova A.V., Loschenov V.B. (*Prokhorov General Physics Institute, Russian Academy of Sciences, Russia*) [15 min].

LThC2 Terahertz Irradiation of Parent Drosophila Accelerates an Achieving the Adult State in Offspring of the First Generation, Viacheslav I. Fedorov, Natalya Ya. Weisman, Eugenia F. Nemova (*Institute of Laser Physics, Russia*) [15 min].

LThC3 The study of chromatin organization in germinal mammalian oocyte by optical tweezers., M.S. Syrchina, A.V. Aybush, A.A. Ocychenko, A.D. Zalesskiy, G.A. Serobyanyan, A.N.Kostrov, A.A. Titov, V. A.Nadtochenko (*Semenov Institute of Chemical Physics, RAS, Russia*) [15 min].

LThC4 Fiber-optic cell-resolved online thermometry in laser-assisted thermogenetics, A.A. Lanin, I.V. Fedotov, Y.G. Ermakova, D.A. Sidorov-Biryukov, A.B. Fedotov, V.V.Belousov, and A.M. Zheltikov (*Moscow State University, Russia*) [15 min].

LThC5 Optical Tweezer on the Base of 4-channel LC modulator for Trapping of Biological Objects, A.V. Korobtsov, S.P. Kotova, N.N. Losevsky, A.M. Mayorova, S.A. Samagin (*Lebedev Physical Institute, Samara Branch, Russia*) [15 min].

LThC6 QUANTUM MEDICINE: MOLECULAR APPEARANCE, Zalesskaya G.A., Astafeva I.G. (*Stepanov Institute of Physics National Academy of Sciences of Belarus, Belarus*) [15 min].

LThC6 Simulation of Thermographic IR Images of a Localized Heat Source Hidden in Biological Tissue, A. P. Ivanov, V. V. Barun (*B.I. Stepanov Institute of Physics, Belarus National Academy of Sciences, Belarus*) [15 min].

SESSION LThD

September 29, 17:00-18:30, Hall 4

Biophotonics and Laser Biomedicine VII

Session Chair: TBA, TBA (TBA)

LThD1 The development of fiber-optic scaffold for the glioblastoma diagnosis and prevention., Yu. S. Maklygina, A.V. Borodkin, G.M. Yusubalieva, V.B. Loschenov (*A.M. Prokhorov General Physics Institute RAS, Russia*) [15 min].

LThD2 The temperature and thermal stresses fields at cornea shape alterations under the ring-shaped laser source., Baum O.I., Omelchenko A.I., Kasianenko E.M., Bolshunov A.V., Sipliviy V.I., Sobol E.N. (*Institute Photonic Technologies of Federal Scientific Research Centre "Crystallography and Photonics" of RAS, 142190, Moscow(Troitsk), Pionerskaya 2, Troitsk, Russia., Russia*) [15 min].

LThD3 Thermo mechanical processes at laser normalization of intraocular pressure., Baum O.I., Bolshunov A.V., Khomchik O.V., Zheltov G.I., Romanov O.G., Sobol E.N. (*Institute Photonic Technologies of Federal Scientific Research Centre "Crystallography and Photonics" of RAS, 142190, MoscowTroitsk, Pionerskaya 2, Troitsk, Russia., Russia*) [15 min].

LThD4 Dual channel video fluorescence diagnostic system for intraoperative navigation during protoporphyrin IX photosensitized malignant tumor resection in central neural system, Loshchenov M.V., Borodkin A.V., Golbin D.A., Gorjainov S.A., Zelenkov P.V., Potapov A.A. (*Prokhorov General Physics Institute, Russia*) [15 min].

LThD5 Light Fields in Skin Tissue with Rough Surface, A. P. Ivanov, V. V. Barun (*B.I. Stepanov Institute of Physics, Belarus National Academy of Sciences, Belarus*) [15 min].

LThD6 Multicomponent diode laser gas analyzer for medical screening diagnostics: Qualitative and quantitative feature of biomarkers of human exhaled air at different functional states, A. Karabinenko, A. Bogomolova, S. Shastun, A. Nadezhdenskii, Ya. Ponurovskii, M. Spiridonov, V. Zaslavskii (*Pirogov Russian National Research Medical University (RNRMU), Ostrovitianov str. 1, 117997 Moscow, Russia. A.M. Prokhorov General Physics Institute, 38 Vavilov str., 119991 Moscow, Russia, Russia*) [15 min].

SESSION LThE

September 29, 18:30-20:00, Posters Hall

Poster Session: Biophotonics and Laser Biomedicine

LThE1 Fluorescence meter for diagnostic purpose with reference channel, V.N. Grishanov, D.V. Kornilin, D.S. Burkov (*Samara University, Russia*) [18:30-20:00].

LThE2 Development of intraoperative videosystem for fluorescence diagnostics and photodynamic therapy monitoring of malignant tumors, Borodkin A.V., Linkov K.G., Grachev P.V., Loshchenov M.V. (*Prokhorov General Physics Institute, Russian Academy of Sciences, Russia*) [18:30-20:00].

LThE3 Biological Activity of Low-Intensity Continuous, Quasi-Continuous and Pulsed Laser Radiation of Nano- and Picosecond Ranges, V. Yu. Plavskii, N. V. Barulin, A. V. Mikulich, A. I. Vodchits, I. A. Khadasevich, L. E. Batay, A. S. Grabchikov, A. I. Tretyakova, L. G. Plavskaya, V. A. Orlovich (*B.I. Stepanov Institute of Physics of NAS of Belarus, Belarus*) [18:30-20:00].

LThE4 The Use of Semiconductor Lasers and LEDs as Fungicidal Factor, A. V. Mikulich, A. I. Tretyakova, L. G. Plavskaya, I. A. Leusenko, V. S. Ulashchik, V. Yu. Plavskii (*B.I. Stepanov Institute of Physics of NAS of Belarus, Belarus*) [18:30-20:00].

LThE5 Photostability of bilirubin and the mechanism of its photosensitizing effect on animal cells in culture, O. A. Kozlenkova, L. G. Plavskaya, O. N. Dydinova, A. V. Mikulich, I. A. Leusenko, A. I. Tretyakova, V. Yu. Plavskii, J. Gao, D. Xiong, X. Wu (*B.I. Stepanov Institute of Physics of NAS of Belarus, Belarus*) [18:30-20:00].

LThE6 Time-Resolved Laser-Induced Fluorescence Spectroscopy for Identification of Pituitary Adenoma, A. N. Sobchuk, N. A. Nemkovich, Yu.V. Kruchenok, Yu. G. Shanko, A. I. Chuhonsky (*B.I. Stepanov Institute of Physics of the National Academy of Sciences of Belarus, Belarus*) [18:30-20:00].

LThE7 The Investigation of Tubulins Intracellular Distribution in Healthy and Cancerous Colon Tissue, S. B. Bushuk, A. S. Portyanko, Ju. A. Kalvinkovskaya, B. A. Bushuk (*B.I. Stepanov Institute of Physics of the National Academy of Science of Belarus, Belarus*) [18:30-20:00].

LThE8 Depth independent Cerenkov radiation mediated therapy with 5-ALA photosensitizer, Yu. S. Maklygina, A.V. Ryabova, V. B. Loschenov, E. N. Sokolov, D. I. Nevzorov, E. Yu. Grigoreva, M. B. Dolgushin, B. I. Dolgushin (*A.M. Prokhorov General Physics Institute RAS, Russia*) [18:30-20:00].

LThE9 Spectroscopic diagnostics of laser-induced change of structure of ascorbic acid solution, Danyaeva Y.S., Kutsenko S.A. (*Volgograd State University, Russia*) [18:30-20:00].

LThE10 Laser Systems and Fiber Optic Tools for Photodynamic Therapy, Kirill G. Linkov, Vladimir V. Volkov (*Prokhorov General Physics Institute, Russian Academy of Sciences, Russia*) [18:30-20:00].

LThE11 Singlet Oxygen Generation by Zeolite-Porphyrin Complexes, M.V. Parkhats, S.V. Lepeshkevich, A.S. Stasheuski, B.M. Dzhagarov, H.H. Sargsyan, R.K. Ghazaryan, A.G. Gyulkhandanyan, G.V. Gyulkhandanyan (*Institute of Physics National Academy of Sciences of Belarus, Belarus*) [18:30-20:00].

LThE12 Molecular Oxygen Migration Through the Xenon Docking Sites of Human Hemoglobin and Its Isolated Chains, Sergei V. Lepeshkevich (*B.I. Stepanov Institute of Physics, National Academy of Sciences of Belarus, Belarus*) [18:30-20:00].

LThE13 Highly Stable and Widely Tunable Ultrashort Pulse Distributed Feedback Dye Laser for Biomedical Applications, T.Sh.Efendiev, V.M.Katarkevich, Yu.V.Kruchenok, V.Yu.Plavskii, A.N.Sobchuk (*B.I. Stepanov Institute of Physics, National Academy of Sciences of Belarus, Belarus*) [18:30-20:00].

LThE14 The nanostructure formation via laser ablation of porous silicon for biomedical applications, F.V. Kashaev, T.P. Kaminskaya, S.V. Zobotnov, D.A. Loginova, P.D. Agrba, M.Yu. Kirillin, L.A. Golovan (*Lomonosov Moscow State University, Russia*) [18:30-20:00].

LThE15 Laser Scanning Microscope Usage for Investigation of the Dynamics of a Chemical Agent Penetration into the Skin, T. A. Zheleznyakova, A. A. Ryzhevich, S. V. Solonevich, S. B. Bushuk (*Institute of Physics of NAS of Belarus, State University, Radiophysics and Computer Technologies Dept., Belarus*) [18:30-20:00].

LThE16 Laser impact monitoring during photocoagulation using optoacoustic technique, Anton Lytkin, Andrey Larichev, Svetlana Shmeleva, Varvara Simonova, Vladimir Sipliviy, Andrey Bolshunov, Alesya Ardamakova (*Moscow State University, Faculty of Physics, Department of Medical Physics, Russia*) [18:30-20:00].

LThE17 Ablation treatment of dental tissue by 1060 nm radiation, S. Anufrick, A. Volodenkov, K. Znosko (*Grodno State University, Belarus*) [18:30-20:00].

LThE18 Ablation treatment of dental tissue by 530 nm radiation, S. Anufrick. A. Volodenkov. K. Znosko (*Grodno State University, Belarus*) [18:30-20:00].

LThE19 The influence of various factors on the interaction mechanism of collagen and collagenase molecules in water solutions by dynamic light scattering, I.A. Sergeeva, K.A. Anenkova, A.D. Maslennikova, A.V. Shlenskaya, G.P. Petrova (*M.V. Lomonosov Moscow State University, Russia*) [18:30-20:00].

LThE20 Reconnectable fiberscopes for long-term, subcellular-resolution in vivo deep-brain imaging, M.S. Pochechuev, I.V. Fedotov, O.I. Ivashkina, M.A. Roshchina, A.B. Fedotov, K.V. Anokhin, and A.M. Zheltikov (*Kurchatov Institute, Russia*) [18:30-20:00].

LThE21 Detection of flavin fluorescence in lung adenocarcinoma cells by FLIM, Boruleva E. A., Zherdeva V. V., Savitsky A. P. (*National research nuclear university "MEPHI" Bach Institute of Biochemistry, Research Center of Biotechnology of the Russian Academy of Sciences, Russia*) [18:30-20:00].

LThE22 Femtosecond laser surgery of mammalian embryo and oocytes., Osychenko A.A., Astafiev A.A., Shakhov A.M. Zalesky A.D., Titov A.A., Nadochenko V.A. (*Semenov Institute of Chemical Physics, RAS, Russia*) [18:30-20:00].

LThE23 UV VANADATE LASERS FOR MEDICINE APPLICATIONS, A.A. Sirotkin, G.P.Kuzmin (*Prokhorov General Physics Institute, Russian Academy of Sciences, Russia*) [18:30-20:00].

LThE24 Clinical application of the multiwavelength laser medical installation with antibacterial and therapeutic effect., A.G.Kuzmina, K.K.Baranov, N.E.Gorbatova, V.P.Kurilov, G.P.Kuzmin, A.A.Sirotkin, O.V.Tikhonovich, S.A.Zolotov (*Prokhorov General Physics Institute, Russian Academy of Sciences, Moscow, Russia, Russia*) [18:30-20:00].

LThE25 Electrostatic interaction in biopolymer water solutions investigated by Laser light scattering., K.V. Fedorova, G.P. Petrova. (*Faculty of Physics M.V.Lomonosov Moscow State University, Russia*) [18:30-20:00].

5. Nanomaterials for Lasers

Quantum dots (0D); carbon nanotubes, carbon nanoribbons (1D); graphene, transition metal dichalcogenides and other materials (2D) for ultrafast photonics; ultrafast modulators of laser beams: dynamics of electronic excitations, optical non-linearities, optical gain.

Chairs: Elena Obraztsova (Prokhorov General Physics Inst., Russia); Sergey Gaponenko (B.I.Stepanov Insti. of Physics, Belarus); Sergey Maksimenko (Belarusian State Univ., Inst. for Nuclear Problems, Belarus)

SESSION LTuA

September 27, 09:00-11:00, Hall 3

Nanomaterials for Lasers I

Session Chair: TBA, TBA (TBA)

LTuA1 Nanocarbon materials for short pulse lasers (*keynote*), Shinji Yamashita (*Research Center for Advanced Science and Technology (RCAST), The University of Tokyo, Japan*) [45 min].

LTuA2 s-SWNT coupling with active silicon photonic devices (*invited*), Nicolas Izard (*Laboratoire Charles Coulomb, Univ. Montpellier, France*) [30 min].

LTuBA3 Hybridly mode-locked ultrafast fiber lasers and their application (*invited*), Alexander Krylov (,) [30 min].

SESSION LTuD

September 27, 11:30-13:00, Hall 3

Nanomaterials for Lasers II

Session Chair: TBA, TBA (TBA)

LTuD1 Desing considerations in the fabrication of nano-carbon saturable absorbers (*invited*), Martines Amos (,) [30 min].

LTuD2 Laser active regions based on CdZnSe/ZnSe QDs and GaN/AlGaIn submonolayers for yellow-green and ultraviolet spectral ranges (*invited*), E.V. Lutsenko, G.P. Yablonskii, S.V. Sorokin, V.N. Jmerik, S.V. Ivanov (*Stepanov Institute of Physics of the National Academy of Sciences of Belarus, Belarus*) [30 min].

LTuD3 Light-induced anisotropy of the glass-metal nanocomposites under irradiation with femtosecond laser pulses (*invited*), M. Halonen, A. A. Lipovsky and Yu. P. Svirko (*University of Eastern Finland, Finland*) [30 min].

SESSION LWE

September 28, 17:00-18:30, Hall 1

Nanomaterials for Lasers III

Session Chair: TBA, TBA (TBA)

LWE1 Optical Effects in Self-Assembled Organic Frustum Shaped Microstructures (*invited*), E.A. Mamonov, I.A. Kolmychek, A.I. Maydykovskiy, V.B. Novikov, T.V. Murzina, D. Venkatakrishnarao, YSLV Narayana, R. Chandrasekar (*Department of Physics, M. V. Lomonosov Moscow State University, Russia*) [30 min].

LWE2 Laser ablation: from nanoparticles to nanostructures (*invited*), E. V. Barmina (*Wave Research Center of A.M. Prokhorov General Physics Institute of the Russian Academy of Sciences, Russia*) [30 min].

LWE3 Carbon nanotube based composites as materials for terahertz application, M. V. Shuba, S. A. Maksimenko (*Institute for Nuclear Problem, Belarus State University, Belarus*) [15 min].

SESSION LThF

September 29, 18:30-20:00, Posters Hall

Poster Session: Nanomaterials for Lasers

LThF1 Photoluminescence of CdSe nanoplatelets through surface states, A.O.Muravitskaya, L.I.Gurinovich*, A.V.Prudnikau, M.V.Artemyev, S.V.Gaponenko (*B.I.Stepanov Institute of Physics of National Academy of Science of Belarus, Belarus*) [18:30-20:00].

LThF2 Optical properties of laser-deposited zinc oxide films doped with holmium fluoride, A.N. Chumakov¹, A. V. Gulay², A. A. Shevchenok³, L. V. Baran⁴, T. F. Raichyonok¹, A. G. Karoza¹, A. S. Matsukovich¹, N.A. Bosak (*B.I. Stepanov Institute of Physics of NAS of Belarus, Belarus*) [18:30-20:00].

LThF3 Nonlinear Properties Of Photopolymer Nanocomposites Based On The Laser Ablation In Liquid Monomer Synthesized AgNPs And AuNPs, Iliia M. Pavlovec, Natalia A. Zulina, Igor Yu. Denisyuk (*ITMO University, Russia*) [18:30-20:00].

LThF4 Laser Assisted Synthesis of Composite Nanostructures in Liquid, V.S. Burakov, A.V. Butsen, N.N. Tarasenko, N.V. Tarasenko (*B.I. Stepanov Institute of Physics of National Academy of Sciences of Belarus, Minsk, Belarus, Belarus*) [18:30-20:00].

LThF5 Phase retardation properties of the porous nanocomposite alumina films, V. Dlugunovich, A. Zhumar, N. Mukhurov (*B.I. Stepanov Institute of Physics of The National Academy of Sciences of Belarus, Scientific and Production Amalgamations "Optics, Optoelectronics and Laser Technology" of The National Academy of Sciences of Belarus, Belarus*) [18:30-20:00].

LThF6 Photoluminescence of CdSe nanoplatelets through surface states, A.O. Muravitskaya, L.I. Gurinovich, A.V. Prudnikau, M.V. Artemyev, S.V. Gaponenko (*B.I. Stepanov Institute of Physics, National Academy of Sciences of Belarus, Belarus*) [18:30-20:00].